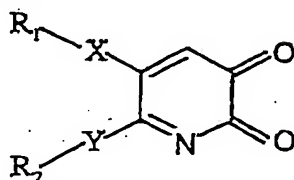


What is claimed is:

1. A compound represented by formula I:

(formula I)



wherein

R₁ and R₂ may be the same or different, each independently represents substituted or unsubstituted phenyl, pyridinyl or pyrimidinyl,

X and Y may be the same or different, each independently represents an N or S atom, provided that when X or Y represents S, then the R₁ or R₂ attached to the S atom is substituted or unsubstituted phenyl.

2. The compound of claim 1, wherein:

when R₁ or R₂ represents substituted phenyl, substituted pyridinyl or substituted pyrimidinyl, the phenyl, pyridinyl, pyrimidinyl has one to three substituents independently selected from the group consisting of C₁-C₆ linear or branched alkyl, C₁-C₆ linear or branched alkoxy, halogen, amino, di(C₁-C₃ alkyl)amino, carbamyl, sulfamoyl, sulfo, cyano, nitro, carboxyl, hydroxy, hydroxy(C₁-C₃) alkyl, (C₁-C₃ alkyl)acyl and (C₁-C₃ alkyl)thio.

3. The compound of claim 2, wherein:

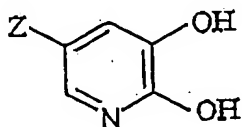
R₁-X- and R₂-Y- each is independently selected from the group consisting of p-tolylamino, o-tolylamino, m-tolylamino, p-ethylphenylamino, o-ethylphenylamino, m-ethylphenylamino, p-chlorophenylamino, o-chlorophenylamino, m-chlorophenylamino, p-fluorophenylamino, o-fluorophenylamino, m-fluorophenylamino, p-bromophenylamino, o-bromophenylamino, m-bromophenylamino, p-iodophenylamino, o-iodophenylamino, m-iodophenylamino, p-nitrophenylamino, o-nitrophenylamino, m-nitrophenylamino, p-carboxylphenylamino, o-carboxylphenylamino, m-carboxylphenylamino, p-carbamoylphenylamino, o-carbamoylphenylamino, m-carbamoylphenylamino, p-methoxyphenylamino, o-methoxyphenylamino, m-methoxyphenylamino, p-ethoxyphenylamino, o-ethoxyphenylamino, m-ethoxyphenylamino, p-sulfophenylamino, o-sulfophenylamino, m-sulfophenylamino, p-sulfamoylphenylamino, o-sulfamoylphenylamino, m-sulfamoylphenylamino,

p-cyanoylphenylamino, o-cyanoylphenylamino, m-cyanoylphenylamino,
 p-hydroxymethylphenylamino, o-hydroxymethylphenylamino,
 m-hydroxymethylphenylamino, p-acetylphenylamino, o-acetylphenylamino,
 m-acetylphenylamino, p-acetaminophenylamino, o-acetaminophenylamino,
 5 m-acetaminophenylamino, p-N,N-dimethylaminophenylamino,
 o-N,N-dimethylaminophenylamino, m-N,N-dimethylaminophenylamino,
 2-carboxyl-4-bromophenylamino, 2-carboxyl-6-chloro-phenylamino,
 2-carboxyl-5-chlorophenylamino, 2-carboxyl-4-chlorophenylamino,
 2-carboxyl-3-chlorophenylamino, 3-carboxyl-2-chlorophenylamino,
 10 3-carboxyl-6-chlorophenylamino, 3-carboxyl-4-chlorophenylamino,
 4-carboxyl-3-chlorophenylamino, 2-cyano-5-chlorophenylamino,
 2-hydroxymethyl-4-chlorophenylamino, 4-carboxyl-5-methoxy-2-chlorophenylamino,
 2-sulfo-4-methyl-5-chlorophenylamino, 2-methyl-4-nitro-5-chlorophenylamino,
 2-carboxyl-4,6-dichlorophenylamino, 2-carboxyl-4,6-diiodophenylamino,
 15 4-carboxyl-2,6-diiodophenylamino, 2-carboxyl-4,6-dimethoxyphenylamino,
 2-cyano-4,6-dimethoxyphenylamino, 4-carbamoyl-2,6-dinitrophenylamino,
 2-carboxyl-5-fluorophenylamino, 2-carboxyl-4-fluorophenylamino,
 2-carboxyl-3-fluorophenylamino, 2-cyano-3-fluorophenylamino,
 2-carboxyl-4-iodophenylamino, 2-carboxyl-6-methoxyphenylamino,
 20 3-carboxyl-6-methoxyphenylamino, 4-carboxyl-6-methoxyphenylamino,
 2-carboxyl-4-methylphenylamino, 2-carboxyl-3-methylphenylamino,
 3-carboxyl-2-methylphenylamino, 4-carboxyl-2-methylphenylamino,
 5-carboxyl-2-methylphenylamino, 2-cyano-5-methylphenylamino,
 2-hydroxymethyl-6-methylphenylamino, 2-hydroxymethyl-4-methylphenylamino,
 25 2-methyl-3-hydroxymethylphenylamino, 2-methyl-5-hydroxymethylphenylamino,
 2-cyano-4-nitrophenylamino, 4-cyano-2-nitrophenylamino,
 2-methyl-4-nitrophenylamino, 2-hydroxy-3-carboxylphenylamino,
 3-hydroxy-4-carboxylphenylamino, 3-carboxyl-4-hydroxyphenylamino,
 4-sulfo-2-methylphenylamino, 3-sulfo-4-methylphenylamino,
 30 2-sulfo-4-methylphenylamino, phenylthio, p-methylphenylthio, o-methylphenylthio,
 m-methylphenylthio, 2-carboxylphenylthio, pyridin-2-amino, pyridin-3-amino,
 pyridin-4-amino, 5-bromopyridin-2-amino, 5-bromo-3-nitropyridin-2-amino,
 4-methyl-3-nitropyridin-2-amino, 4-methyl-5-nitropyridin-2-amino,
 3-nitropyridin-2-amino, 5-nitropyridin-2-amino, 3-methylpyridin-2-amino,
 35 4-methylpyridin-2-amino, 5-methylpyridin-2-amino, 6-methylpyridin-2-amino,

4,6-dimethylpyridin-2-amino, 2-methoxypyridin-5-amino, 5-chloropyridin-2-amino,
 2-chloropyridin-3-amino, 2-chloropyridin-5-amino, 3,5-dibromopyridin-2-amino,
 3,5-dichloropyridin-2-amino, 4-methyl-3-nitropyridin-2-amino,
 4-methyl-5-nitropyridin-2-amino, nicotinamid-6-amino, nicotinamid-2-amino,
 5 pyrimidin-2-amino, pyrimidin-4-amino, 5-bromopyrimidin-2-amino,
 2,6-dihydroxypyrimidin-4-amino, 4,6-dimethoxypyrimidin-3-amino,
 4,6-dimethoxypyrimidin-2-amino, 4-hydroxy-6-methylpyrimidin-2-amino,
 3-hydroxypyrimidin-2-amino, 4-methoxy-5-methylpyrimidin-2-amino,
 2-methoxypyrimidin-5-amino, 4-chloro-6-methylpyrimidin-2-amino,
 10 6-chloro-2-methylthiopyrimidin-4-amino, 4,6-dichloropyrimidin-2-amino,
 4,6-dichloropyrimidin-5-amino, 4-methylpyrimidin-2-amino,
 3-nitropyrimidin-2-amino and 5-nitropyrimidin-2-amino.

4. A method of preparing the compound represented by formula I, comprising:
 15 reacting the compound represented by formula II

(formula II)



20 wherein Z is H or halogen,
 with one or two aromatic amines represented by formula III

R_4NH_2 (formula III)

25 Wherein R_4 represents substituted or unsubstituted phenyl, pyridinyl or pyrimidinyl,
 or,
 with one or two thiophenols represented by formula IV

R_5SH (formula IV)

30 Wherein R_5 represents substituted or unsubstituted phenyl,
 in the presence of an oxidant at a temperature of 10-80°C for 0.2-20 hrs.

5. The method of claim 4, wherein the halogen is chloro or bromo.

6. The method of claim 4, wherein R_4 represents substituted phenyl, substituted pyridinyl or substituted pyrimidinyl, the phenyl, pyridinyl or pyrimidinyl has one to three substituents independently selected from the group consisting of C_1 - C_6 linear or branched alkyl, C_1 - C_6 linear or branched alkoxy, halogen, amino, di(C_1 - C_3 alkyl)amino, carbamyl, sulfamoyl, sulfo, cyano, nitro, carboxyl, hydroxy, hydroxy(C_1 - C_3) alkyl, (C_1 - C_3) alkyl)acyl and (C_1 - C_3 alkyl)thio.

7. The method of claim 4, wherein R_5 represents a substituted phenyl having one to two substituents selected from the group consisting of methyl, ethyl, propyl and carboxyl.

8. The method of any one of claims 4 to 7, wherein the reaction is performed in an aqueous organic solvent, and wherein the oxidant is selected from the group consisting of alkali metal salts of bromic acid, alkali metal salts of iodic acid, alkali metal salts of persulfuric acid, alkali metal salts of chloric acid, and the mixture thereof.

9. The method of claim 8, wherein the alkali metal is sodium or potassium.

10. The method of claim 8, wherein the reaction temperature is 40°C-60°C.

11. The method of claim 8, wherein the oxidant is added in portions.

12. The method of claim 8, wherein the reaction time is 2-10 hrs.

13. The method of any one of claims 4 to 7, wherein the oxidant is a polyphenoloxidase.

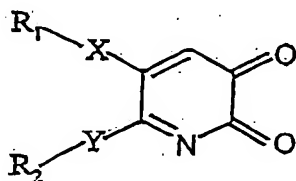
14. The method of claim 13, wherein the reaction temperature is 25°C-45°C.

15. The method of claim 13, wherein the reaction time is 2-20 hrs.

16. The method of any one of claims 4 to 7, wherein the organic solvent is selected from the group consisting of methanol, ethanol, dimethyl sulfoxide, acetone, dioxane, tetrahydrofuran, dimethyl formamide, acetonitrile, and the mixture thereof.

17. A pharmaceutical composition, which contains the compound represented by formula I as an active component and a pharmaceutically acceptable carrier,

5 (formula I)



wherein

R₁ and R₂ may be the same or different, each independently represents substituted or unsubstituted phenyl, pyridinyl or pyrimidinyl,

10 X and Y may be the same or different, each independently represents an N or S atom, provided that when X or Y represents S, then the R₁ or R₂ attached to the S atom is substituted or unsubstituted phenyl.

18. The pharmaceutical composition of claim 17, wherein when R₁ or R₂ represents substituted phenyl, substituted pyridinyl or substituted pyrimidinyl, the phenyl, pyridinyl, pyrimidinyl has one to three substituents independently selected from the group consisting of C₁-C₆ linear or branched alkyl, C₁-C₆ linear or branched alkoxy, halogen, amino, di(C₁-C₃ alkyl)amino, carbamyl, sulfamoyl, sulfo, cyano, nitro, carboxyl, hydroxy, hydroxy(C₁-C₃) alkyl, (C₁-C₃ alkyl)acyl and (C₁-C₃ alkyl)thio.

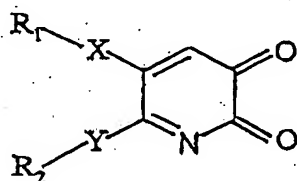
19. The pharmaceutical composition of claim 18, wherein R₁-X- and R₂-Y- each is independently selected from the group consisting of p-tolylamino, o-tolylamino, m-tolylamino, p-ethylphenylamino, o-ethylphenylamino, m-ethylphenylamino, p-chlorophenylamino, o-chlorophenylamino, m-chlorophenylamino, p-fluorophenylamino, o-fluorophenylamino, m-fluorophenylamino, p-bromophenylamino, o-bromophenylamino, m-bromophenylamino, p-iodophenylamino, o-iodophenylamino, m-iodophenylamino, p-nitrophenylamino, o-nitrophenylamino, m-nitrophenylamino, p-carboxylphenylamino, o-carboxylphenylamino, m-carboxylphenylamino, p-carbamoylphenylamino, o-carbamoylphenylamino, m-carbamoylphenylamino, p-methoxyphenylamino, o-methoxyphenylamino, m-methoxyphenylamino, p-ethoxyphenylamino, o-ethoxyphenylamino, m-ethoxyphenylamino, p-sulfophenylamino, o-sulfophenylamino, m-sulfophenylamino, p-sulfamoylphenylamino, o-sulfamoylphenylamino, m-sulfamoylphenylamino, p-cyanoylphenylamino, o-cyanoylphenylamino, m-cyanoylphenylamino, p-hydroxymethylphenylamino,

- o-hydroxymethylphenylamino, m-hydroxymethylphenylamino, p-acetylphenylamino,
o-acetylphenylamino, m-acetylphenylamino, p-acetaminophenylamino,
o-acetaminophenylamino, m-acetaminophenylamino,
p-N,N-dimethylaminophenylamino, o-N,N-dimethylaminophenylamino,
5 m-N,N-dimethylaminophenylamino, 2-carboxyl-4-bromophenylamino,
2-carboxyl-6-chloro-phenylamino, 2-carboxyl-5-chlorophenylamino,
2-carboxyl-4-chlorophenylamino, 2-carboxyl-3-chlorophenylamino,
3-carboxyl-2-chlorophenylamino, 3-carboxyl-6-chlorophenylamino,
3-carboxyl-4-chlorophenylamino, 4-carboxyl-3-chlorophenylamino,
10 2-cyano-5-chlorophenylamino, 2-hydroxymethyl-4-chlorophenylamino,
4-carboxyl-5-methoxy-2-chlorophenylamino, 2-sulfo-4-methyl-5-chlorophenylamino,
2-methyl-4-nitro-5-chlorophenylamino, 2-carboxyl-4,6-dichlorophenylamino,
2-carboxyl-4,6-diiodophenylamino, 4-carboxyl-2,6-diiodophenylamino,
2-carboxyl-4,6-dimethoxyphenylamino, 2-cyano-4,6-dimethoxyphenylamino,
15 4-carbamoyl-2,6-dinitrophenylamino, 2-carboxyl-5-fluorophenylamino,
2-carboxyl-4-fluorophenylamino, 2-carboxyl-3-fluorophenylamino,
2-cyano-3-fluorophenylamino, 2-carboxyl-4-iodophenylamino,
2-carboxyl-6-methoxyphenylamino, 3-carboxyl-6-methoxyphenylamino,
4-carboxyl-6-methoxyphenylamino, 2-carboxyl-4-methylphenylamino,
20 2-carboxyl-3-methylphenylamino, 3-carboxyl-2-methylphenylamino,
4-carboxyl-2-methylphenylamino, 5-carboxyl-2-methylphenylamino,
2-cyano-5-methylphenylamino, 2-hydroxymethyl-6-methylphenylamino,
2-hydroxymethyl-4-methylphenylamino, 2-methyl-3-hydroxymethylphenylamino,
2-methyl-5-hydroxymethylphenylamino, 2-cyano-4-nitrophenylamino,
25 4-cyano-2-nitrophenylamino, 2-methyl-4-nitrophenylamino,
2-hydroxy-3-carboxylphenylamino, 3-hydroxy-4-carboxylphenylamino,
3-carboxyl-4-hydroxyphenylamino, 4-sulfo-2-methylphenylamino,
3-sulfo-4-methylphenylamino, 2-sulfo-4-methylphenylamino, phenylthio,
p-methylphenylthio, o-methylphenylthio, m-methylphenylthio, 2-carboxylphenylthio,
30 pyridin-2-amino, pyridin-3-amino, pyridin-4-amino, 5-bromopyridin-2-amino,
5-bromo-3-nitropyridin-2-amino, 4-methyl-3-nitropyridin-2-amino,
4-methyl-5-nitropyridin-2-amino, 3-nitropyridin-2-amino, 5-nitropyridin-2-amino,
3-methylpyridin-2-amino, 4-methylpyridin-2-amino, 5-methylpyridin-2-amino,
6-methylpyridin-2-amino, 4,6-dimethylpyridin-2-amino, 2-methoxypyridin-5-amino,
35 5-chloropyridin-2-amino, 2-chloropyridin-3-amino, 2-chloropyridin-5-amino,

3,5-dibromopyridin-2-amino, 3,5-dichloropyridin-2-amino,
 4-methyl-3-nitropyridin-2-amino, 4-methyl-5-nitropyridin-2-amino,
 nicotinamid-6-amino, nicotinamid-2-amino, pyrimidin-2-amino, pyrimidin-4-amino,
 5-bromopyrimidin-2-amino, 2,6-dihydroxypyrimidin-4-amino,
 5 4,6-dimethoxypyrimidin-3-amino, 4,6-dimethoxypyrimidin-2-amino,
 4-hydroxy-6-methylpyrimidin-2-amino, 3-hydroxypyrimidin-2-amino,
 4-methoxy-5-methylpyrimidin-2-amino, 2-methoxypyrimidin-5-amino,
 4-chloro-6-methylpyrimidin-2-amino, 6-chloro-2-methylthiopyrimidin-4-amino,
 4,6-dichloropyrimidin-2-amino, 4,6-dichloropyrimidin-5-amino,
 10 4-methylpyrimidin-2-amino, 3-nitropyrimidin-2-amino and 5-nitropyrimidin-2-amino.

20. The use of the compound represented by formula I, characterized in that the compound is used in preparing a pharmaceutical composition for selectively inhibiting cyclooxygenase-2,

(formula I)



wherein

R₁ and R₂ may be the same or different, each independently represents substituted or unsubstituted phenyl, pyridinyl or pyrimidinyl,

X and Y may be the same or different, each independently represents an N or S atom, provided that when X or Y represents S, then the R₁ or R₂ attached to the S atom is substituted or unsubstituted phenyl.

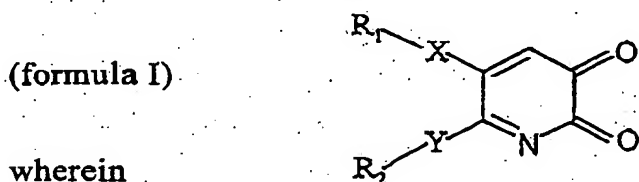
21. The use of claim 20, wherein when R₁ or R₂ represents substituted phenyl, substituted pyridinyl or substituted pyrimidinyl, the phenyl, pyridinyl, pyrimidinyl has one to three substituents independently selected from the group consisting of C₁-C₆ linear or branched alkyl, C₁-C₆ linear or branched alkoxy, halogen, amino, di(C₁-C₃ alkyl)amino, carbamyl, sulamoyl, sulfo, cyano, nitro, carboxyl, hydroxy, hydroxy(C₁-C₃) alkyl, (C₁-C₃ alkyl)acyl and (C₁-C₃ alkyl)thio.

22. The use of claim 21, wherein R₁-X- and R₂-Y- each is independently selected from the group consisting of p-tolylamino, o-tolylamino, m-tolylamino, p-ethylphenylamino, o-ethylphenylamino, m-ethylphenylamino, p-chlorophenylamino,

- o-chlorophenylamino, m-chlorophenylamino, p-fluorophenylamino,
o-fluorophenylamino, m-fluorophenylamino, p-bromophenylamino,
o-bromophenylamino, m-bromophenylamino, p-iodophenylamino, o-iodophenylamino,
m-iodophenylamino, p-nitrophenylamino, o-nitrophenylamino, m-nitrophenylamino,
5 p-carboxylphenylamino, o-carboxylphenylamino, m-carboxylphenylamino,
p-carbamoylphenylamino, o-carbamoylphenylamino, m-carbamoylphenylamino,
p-methoxyphenylamino, o-methoxyphenylamino, m-methoxyphenylamino,
p-ethoxyphenylamino, o-ethoxyphenylamino, m-ethoxyphenylamino,
p-sulfophenylamino, o-sulfophenylamino, m-sulfophenylamino,
10 p-sulfamoylphenylamino, o-sulfamoylphenylamino, m-sulfamoylphenylamino,
p-cyanoylphenylamino, o-cyanoylphenylamino, m-cyanoylphenylamino,
p-hydroxymethylphenylamino, o-hydroxymethylphenylamino,
m-hydroxymethylphenylamino, p-acetylphenylamino, o-acetylphenylamino,
m-acetylphenylamino, p-acetaminophenylamino, o-acetaminophenylamino,
15 m-acetaminophenylamino, p-N,N-dimethylaminophenylamino,
o-N,N-dimethylaminophenylamino, m-N,N-dimethylaminophenylamino,
2-carboxyl-4-bromophenylamino, 2-carboxyl-6-chloro-phenylamino,
2-carboxyl-5-chlorophenylamino, 2-carboxyl-4-chlorophenylamino,
2-carboxyl-3-chlorophenylamino, 3-carboxyl-2-chlorophenylamino,
20 3-carboxyl-6-chlorophenylamino, 3-carboxyl-4-chlorophenylamino,
4-carboxyl-3-chlorophenylamino, 2-cyano-5-chlorophenylamino,
2-hydroxymethyl-4-chlorophenylamino, 4-carboxyl-5-methoxy-2-chlorophenylamino,
2-sulfo-4-methyl-5-chlorophenylamino, 2-methyl-4-nitro-5-chlorophenylamino,
2-carboxyl-4,6-dichlorophenylamino, 2-carboxyl-4,6-diiodophenylamino,
25 4-carboxyl-2,6-diiodophenylamino, 2-carboxyl-4,6-dimethoxyphenylamino,
2-cyano-4,6-dimethoxyphenylamino, 4-carbamoyl-2,6-dinitrophenylamino,
2-carboxyl-5-fluorophenylamino, 2-carboxyl-4-fluorophenylamino,
2-carboxyl-3-fluorophenylamino, 2-cyano-3-fluorophenylamino,
2-carboxyl-4-iodophenylamino, 2-carboxyl-6-methoxyphenylamino,
30 3-carboxyl-6-methoxyphenylamino, 4-carboxyl-6-methoxyphenylamino,
2-carboxyl-4-methylphenylamino, 2-carboxyl-3-methylphenylamino,
3-carboxyl-2-methylphenylamino, 4-carboxyl-2-methylphenylamino,
5-carboxyl-2-methylphenylamino, 2-cyano-5-methylphenylamino,
2-hydroxymethyl-6-methylphenylamino, 2-hydroxymethyl-4-methylphenylamino,
35 2-methyl-3-hydroxymethylphenylamino, 2-methyl-5-hydroxymethylphenylamino,

2-cyano-4-nitrophenylamino, 4-cyano-2-nitrophenylamino,
 2-methyl-4-nitrophenylamino, 2-hydroxy-3-carboxylphenylamino,
 3-hydroxy-4-carboxylphenylamino, 3-carboxyl-4-hydroxyphenylamino,
 4-sulfo-2-methylphenylamino, 3-sulfo-4-methylphenylamino,
 5 2-sulfo-4-methylphenylamino, phenylthio, p-methylphenylthio, o-methylphenylthio,
 m-methylphenylthio, 2-carboxylphenylthio, pyridin-2-amino, pyridin-3-amino,
 pyridin-4-amino, 5-bromopyridin-2-amino, 5-bromo-3-nitropyridin-2-amino,
 4-methyl-3-nitropyridin-2-amino, 4-methyl-5-nitropyridin-2-amino,
 3-nitropyridin-2-amino, 5-nitropyridin-2-amino, 3-methylpyridin-2-amino,
 10 4-methylpyridin-2-amino, 5-methylpyridin-2-amino, 6-methylpyridin-2-amino,
 4,6-dimethylpyridin-2-amino, 2-methoxypyridin-5-amino, 5-chloropyridin-2-amino,
 2-chloropyridin-3-amino, 2-chloropyridin-5-amino, 3,5-dibromopyridin-2-amino,
 3,5-dichloropyridin-2-amino, 4-methyl-3-nitropyridin-2-amino,
 4-methyl-5-nitropyridin-2-amino, nicotinamid-6-amino, nicotinamid-2-amino,
 15 pyrimidin-2-amino, pyrimidin-4-amino, 5-bromopyrimidin-2-amino,
 2,6-dihydroxypyrimidin-4-amino, 4,6-dimethoxypyrimidin-3-amino,
 4,6-dimethoxypyrimidin-2-amino, 4-hydroxy-6-methylpyrimidin-2-amino,
 3-hydroxypyrimidin-2-amino, 4-methoxy-5-methylpyrimidin-2-amino,
 2-methoxypyrimidin-5-amino, 4-chloro-6-methylpyrimidin-2-amino,
 20 6-chloro-2-methylthiopyrimidin-4-amino, 4,6-dichloropyrimidin-2-amino,
 4,6-dichloropyrimidin-5-amino, 4-methylpyrimidin-2-amino,
 3-nitropyrimidin-2-amino and 5-nitropyrimidin-2-amino.

23. A method of selectively inhibiting cyclooxygenase-2, wherein comprising
 25 administrating the compound represented by formula I to a mammal,



30 R_1 and R_2 may be the same or different, each independently represents
 substituted or unsubstituted phenyl, pyridinyl or pyrimidinyl,

X and Y may be the same or different, each independently represents an N or S
 atom, provided that when X or Y represents S, then the R_1 or R_2 attached to the S atom
 is substituted or unsubstituted phenyl.

35

24. The method of claim 23, wherein when R₁ or R₂ represents substituted phenyl, substituted pyridinyl or substituted pyrimidinyl, the phenyl, pyridinyl, pyrimidinyl has one to three substituents independently selected from the group consisting of C₁-C₆ linear or branched alkyl, C₁-C₆ linear or branched alkoxy, halogen, amino, di(C₁-C₃ alkyl)amino, carbamyl, sulamoyl, sulfo, cyano, nitro, carboxyl, hydroxy, hydroxy(C₁-C₃) alkyl, (C₁-C₃ alkyl)acyl and (C₁-C₃ alkyl)thio.

25. The method of claim 24, wherein R₁-X- and R₂-Y- each is independently selected from the group consisting of p-tolylamino, o-tolylamino, m-tolylamino, p-ethylphenylamino, o-ethylphenylamino, m-ethylphenylamino, p-chlorophenylamino, o-chlorophenylamino, m-chlorophenylamino, p-fluorophenylamino, o-fluorophenylamino, m-fluorophenylamino, p-bromophenylamino, o-bromophenylamino, m-bromophenylamino, p-iodophenylamino, o-iodophenylamino, m-iodophenylamino, p-nitrophenylamino, o-nitrophenylamino, m-nitrophenylamino, p-carboxylphenylamino, o-carboxylphenylamino, m-carboxylphenylamino, p-carbamoylphenylamino, o-carbamoylphenylamino, m-carbamoylphenylamino, p-methoxyphenylamino, o-methoxyphenylamino, m-methoxyphenylamino, p-ethoxyphenylamino, o-ethoxyphenylamino, m-ethoxyphenylamino, p-sulfophenylamino, o-sulfophenylamino, m-sulfophenylamino, p-sulfamoylphenylamino, o-sulfamoylphenylamino, m-sulfamoylphenylamino, p-cyanoylphenylamino, o-cyanoylphenylamino, m-cyanoylphenylamino, p-hydroxymethylphenylamino, o-hydroxymethylphenylamino, m-hydroxymethylphenylamino, p-acetylphenylamino, o-acetylphenylamino, m-acetylphenylamino, p-acetaminophenylamino, o-acetaminophenylamino, m-acetaminophenylamino, p-N,N-dimethylaminophenylamino, o-N,N-dimethylaminophenylamino, m-N,N-dimethylaminophenylamino, 2-carboxyl-4-bromophenylamino, 2-carboxyl-6-chloro-phenylamino, 2-carboxyl-5-chlorophenylamino, 2-carboxyl-4-chlorophenylamino, 2-carboxyl-3-chlorophenylamino, 3-carboxyl-2-chlorophenylamino, 3-carboxyl-6-chlorophenylamino, 3-carboxyl-4-chlorophenylamino, 4-carboxyl-3-chlorophenylamino, 2-cyano-5-chlorophenylamino, 2-hydroxymethyl-4-chlorophenylamino, 4-carboxyl-5-methoxy-2-chlorophenylamino, 2-sulfo-4-methyl-5-chlorophenylamino, 2-methyl-4-nitro-5-chlorophenylamino, 2-carboxyl-4,6-dichlorophenylamino, 2-carboxyl-4,6-diiodophenylamino, 4-carboxyl-2,6-diiodophenylamino, 2-carboxyl-4,6-dimethoxyphenylamino,

- 2-cyano-4,6-dimethoxyphenylamino, 4-carbamoyl-2,6-dinitrophenylamino,
 2-carboxyl-5-fluorophenylamino, 2-carboxyl-4-fluorophenylamino,
 2-carboxyl-3-fluorophenylamino, 2-cyano-3-fluorophenylamino,
 2-carboxyl-4-iodophenylamino, 2-carboxyl-6-methoxyphenylamino,
 5 3-carboxyl-6-methoxyphenylamino, 4-carboxyl-6-methoxyphenylamino,
 2-carboxyl-4-methylphenylamino, 2-carboxyl-3-methylphenylamino,
 3-carboxyl-2-methylphenylamino, 4-carboxyl-2-methylphenylamino,
 5-carboxyl-2-methylphenylamino, 2-cyano-5-methylphenylamino,
 2-hydroxymethyl-6-methylphenylamino, 2-hydroxymethyl-4-methylphenylamino,
 10 2-methyl-3-hydroxymethylphenylamino, 2-methyl-5-hydroxymethylphenylamino,
 2-cyano-4-nitrophenylamino, 4-cyano-2-nitrophenylamino,
 2-methyl-4-nitrophenylamino, 2-hydroxy-3-carboxylphenylamino,
 3-hydroxy-4-carboxylphenylamino, 3-carboxyl-4-hydroxyphenylamino,
 4-sulfo-2-methylphenylamino, 3-sulfo-4-methylphenylamino,
 15 2-sulfo-4-methylphenylamino, phenylthio, p-methylphenylthio, o-methylphenylthio,
 m-methylphenylthio, 2-carboxylphenylthio, pyridin-2-amino, pyridin-3-amino,
 pyridin-4-amino, 5-bromopyridin-2-amino, 5-bromo-3-nitropyridin-2-amino,
 4-methyl-3-nitropyridin-2-amino, 4-methyl-5-nitropyridin-2-amino,
 3-nitropyridin-2-amino, 5-nitropyridin-2-amino, 3-methylpyridin-2-amino,
 20 4-methylpyridin-2-amino, 5-methylpyridin-2-amino, 6-methylpyridin-2-amino,
 4,6-dimethylpyridin-2-amino, 2-methoxypyridin-5-amino, 5-chloropyridin-2-amino,
 2-chloropyridin-3-amino, 2-chloropyridin-5-amino, 3,5-dibromopyridin-2-amino,
 3,5-dichloropyridin-2-amino, 4-methyl-3-nitropyridin-2-amino,
 4-methyl-5-nitropyridin-2-amino, nicotinamid-6-amino, nicotinamid-2-amino,
 25 pyrimidin-2-amino, pyrimidin-4-amino, 5-bromopyrimidin-2-amino,
 2,6-dihydroxypyrimidin-4-amino, 4,6-dimethoxypyrimidin-3-amino,
 4,6-dimethoxypyrimidin-2-amino, 4-hydroxy-6-methylpyrimidin-2-amino,
 3-hydroxypyrimidin-2-amino, 4-methoxy-5-methylpyrimidin-2-amino,
 2-methoxypyrimidin-5-amino, 4-chloro-6-methylpyrimidin-2-amino,
 30 6-chloro-2-methylthiopyrimidin-4-amino, 4,6-dichloropyrimidin-2-amino,
 4,6-dichloropyrimidin-5-amino, 4-methylpyrimidin-2-amino,
 3-nitropyrimidin-2-amino and 5-nitropyrimidin-2-amino.